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Anterior colporrhaphy versus transvaginal mesh for pelvic-organ prolapse

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Background: The use of standardized mesh kits for repair of pelvic-organ prolapse has spread rapidly in recent years, but it is unclear whether this approach results in better outcomes than traditional colporrhaphy.
Methods: In this multicenter, parallel-group, randomized, controlled trial, we compared the use of a trocar-guided, transvaginal polypropylene-mesh repair kit with traditional colporrhaphy in women with prolapse of the anterior vaginal wall (cystocele). The primary outcome was a composite of the objective anatomical designation of stage 0 (no prolapse) or 1 (position of the anterior vaginal wall more than 1 cm above the hymen), according to the Pelvic Organ Prolapse Quantification system, and the subjective absence of symptoms of vaginal bulging 12 months after the surgery.
Results: Of 389 women who were randomly assigned to a study treatment, 200 underwent prolapse repair with the transvaginal mesh kit and 189 underwent traditional colporrhaphy. At 1 year, the primary outcome was significantly more common in the women treated with transvaginal mesh repair (60.8%) than in those who underwent colporrhaphy (34.5%) (absolute difference, 26.3 percentage points; 95% confidence interval, 15.6 to 37.0). The surgery lasted longer and the rates of intraoperative hemorrhage were higher in the mesh-repair group than in the colporrhaphy group ($P < 0.001$ for both comparisons). Rates of bladder perforation were 3.5% in the mesh-repair group and 0.5% in the colporrhaphy group ($P = 0.07$), and the respective rates of new stress urinary incontinence after surgery were 12.3% and 6.3% ($P = 0.05$). Surgical reintervention to correct mesh exposure during follow-up occurred in 3.2% of 186 patients in the mesh-repair group.
Conclusions: As compared with anterior colporrhaphy, use of a standardized, trocar-guided mesh kit for cystocele repair resulted in higher short-term rates of successful treatment but also in higher rates of surgical complications and postoperative adverse events. (Funded by the Karolinska Institutet and Ethicon; ClinicalTrials.gov number, NCT00566917.).

Editorial Comment

This paper is the result of an outstanding effort by several centers to bring up a decent comparative analysis between classic anterior colporrhaphy and transvaginal mesh correction for pelvic organ prolapse. The study enrolled approximately 400 patients and gathered two very similar groups to undergo the two procedures. Equation of factors such as BMI, age and time since menopause adds credibility to this cohort. It is a known concern that mesh placement involves a more demanding surgical expertise and familiarity with pelvic anatomy and also is associated with a higher rate of sexual dysfunction (1) and major surgical

complications, as the technique frequently involves the blind passage of needles to anchor mesh arms into the pelvic ligaments. This study corroborates that intraoperative complications may a bit higher indeed in the mesh group (blood loss, operative time, bladder perforation) but with low clinical impact (except for blood loss in 5 five cases of the mesh group which surpassed 500 mL). Sexual impairment was statistically equivalent for both groups regarding pain and satisfaction ($p > 0.05$). Objective results for organ prolapse were better for the use of mesh repair which is in accordance with other reports with similar follow up (1 year). A higher incidence of new stress urinary incontinence was detected and may result from overcorrection of the apical axis by the mesh. This may vary according to mesh design and placement technique (2).

The need to judiciously select the patients who are good candidates to undergo a mesh repair is obvious as it is not free from undesired effects. However, urologists are encouraged to pursue surgical expertise involving these innovative options as there is a continuous tendency to improve mesh designs and biomaterials.

References

1. Altman D, Elmér C, Kiilholma P, Kinne I, Tegerstedt G, Falconer C, et al.: Sexual dysfunction after trocar-guided transvaginal mesh repair of pelvic organ prolapse. Obstet Gynecol. 2009; 113: 127-33.
2. Palma P, Riccetto C, Prudente A, Dalphorno F, Delroy C, Castro R, et al.: Monoprosthesis for anterior vaginal prolapse and stress urinary incontinence: midterm results of an international multicentre prospective study. Int Urogynecol J. 2011; 1. [Epub ahead of print]

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